

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-3 and 5-20 are pending, with claims 10-11 and 17 amended by the present amendment.

In the Official Action, claims 1-4, 9, and 11-13 were rejected under 35 U.S.C. 102(e) as being anticipated by Cavallerano et al. (U.S. Patent Publication 2002/0057372, hereinafter Cavallerano); claims 5-7 and 14-16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallerano; claim 10 was rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallerano in view of Norsworthy (U.S. Patent Publication 2003/0016304, hereinafter Norsworthy); and claims 8 and 17-20 were rejected under 35 U.S.C. 103(a) as being unpatentable over Cavallerano in view of Takahashi et al. (U.S. Patent Publication 2003/0099457, hereinafter Takahashi).

Claims 10-11 and 17 are amended to include the clause, "wherein the broadcast signal is received by the decoding unit from a single tuner." Support can be found, at least, at paragraphs [0047] of the specification. No new matter is added.

Briefly recapitulating, amended independent claim 11 is directed to

An image recording and reproducing method, comprising the steps of:

selecting a time shift mode using a mode setup unit:

when a signal is reproduced in a time shift mode, decoding a live signal and a time shift signal through first and second decoding units, respectively, the live signal and the time shift signal being branched from a broadcast signal;

synthesizing the decoded live signal and the decoded time shift signal; and

displaying the synthesized signals, wherein the broadcast signal is received by the decoding unit from a single tuner.

Figure 1 of Cavallerano shows a television set 2 with a main display 3 and PIP display 4. Figure 2 is a block diagram of a smart PIP system where instead of the PIP being either on or off, the PIP device is operating in the background searching for a predefined condition or event. Whether predefined condition or event is found, then the PIP window is turned on.¹ The PIP channel tuner/demodulator 20 receives an RF video and or audio information from a plurality of programs and tunes into a display program. The digital PIP program is then decoded in the PIP channel decoder 40. The PIP formatting and memory 50 formats the video information of the PIP program for the smaller PIP display.²

However, Cavallerano does not disclose or suggest “when a signal is reproduced in a time shift mode, decoding a live signal and a time shift signal through first and second decoding units, respectively, the live signal and the time shift signal being branched from a broadcast signal; synthesizing the decoded live signal and the decoded time shift signal; and displaying the synthesized signals, wherein the broadcast signal is received by the decoding unit from a single tuner” as recited in claim 11. Rather, Cavallerano displays a signal received through a main channel tuner and PIP channel tuner so as to be able to use a PIP (i.e., displaying the synthesized signals). Specifically, Cavallerano teaches, at [0025] “In an alternative embodiment of the invention, the program having the detected event is displayed in the main display rather than the PIP display. In such an embodiment, either there is a single tuner 20 or there is no PIP formatting memory 50.” Thus, Cavallerano can use a single tuner only when displaying in the main display.

¹ Cavallerano paragraph 0021

² Cavallerano paragraph 0023

To be able to display PIP, Cavallerano must use two signals of two channels received by two tuners (*See* also Fig. 2 of Cavallerano). In contrast, claims 1 and 11 recite displaying the synthesized signals (PIP) which are received by the decoding unit from a single tuner. For similar reasons, Cavallerano does not disclose or suggest the device of claim 1.

MPEP § 2131 notes that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also MPEP § 2131.02. “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Because Cavallerano does not disclose or suggest all of the features recited in claims 1 and 11, Cavallerano does not anticipate the invention recited in claims 1 and 11, and all claims depending therefrom.

Independent claim 10 is directed to

An image recording and reproducing apparatus, comprising:

a mode setup unit configured to set a mode of an inputted broadcast signal;

a recording/storing unit configured to selectively store the broadcasting signal according to the mode set by the mode setup unit;

a live decoding unit configured to decode a live signal branched in the mode setup unit;

a time shift decoding unit configured to decode a time shift signal outputted from the recording/storing unit;

a signal synthesizing unit configured to synthesize the decoded live signal and the decoded time shift signal; and

a display unit configured to display the synthesized signals, wherein the broadcast signal is received by the decoding unit from a single tuner.

As noted above relative to claim 1, Cavallerano fails to disclose or suggest a decoding unit configured to tune a live signal and a time shift signal in a time shift mode, the live signal and the time shift signal being branched from a broadcast signal; a signal synthesizing unit configured to synthesize the decoded live signal and the decoded time shift signal; and a display unit configured to display the synthesized signals, wherein the broadcast signal is received by the decoding unit from a single tuner.

Norsworthy does not cure the deficiencies of Cavallerano. Norsworthy discloses a first tuner used to decode a first, or main, signal (this would be the channel on which the user would be listening to audio if audio is desired) and a second tuner is used to provide two or more channels for presentation of the "window" images in association with the main channel. In particular, Norsworthy discloses a controller 16 for determining which channels are to be decoded. (See paragraph [0020]). Norsworthy does not disclose or suggest Applicant's claimed feature of the broadcast signal being received by the decoding unit from a single tuner.

Independent claim 17 is directed to

An image recording and reproducing method, comprising the steps of:

selecting a time shift mode using a mode setup unit;

a) when a signal is reproduced in a time shift mode, displaying a time shift signal and a live signal on one screen at the same time in response to a user's request for a reproduction of a previous broadcasting;

b) when the user requests a reproduction of a current broadcasting during the reproduction, recording a reproducing end position of the time shift signal; and

c) when the user requests a reproduction of a previous broadcasting again, reproducing the previous broadcasting from the recorded reproducing end position of the time shift signal, wherein the broadcast signal is received by the decoding unit from a single tuner.

As noted above relative to claim 11, Cavallerano does not disclose or suggest “when a signal is reproduced in a time shift mode, decoding a live signal and a time shift signal through first and second decoding units, respectively, the live signal and the time shift signal being branched from a broadcast signal; synthesizing the decoded live signal and the decoded time shift signal; and displaying the synthesized signals, wherein the broadcast signal is received by the decoding unit from a single tuner.”

Takahashi does not cure the deficiencies of Cavallerano. Takahashi describes receiving terminal device which provides viewers with broadcasting radio waves from broadcasting stations as programs and in which, when a program switching is executed while a first program is being provided and a program is switched to a second program, the second program is provided and video recording of the first program is started, and when the program is switched back to the first program after the program is switched to the second program, the recorded first program is provided. Takahashi does not disclose or suggest Applicant’s claimed feature of the broadcast signal being received by the decoding unit from a single tuner.

As none of the cited art, individually or in combination, discloses or suggests at least the above-noted features of independent claims 10 and 17, Applicant submits the inventions defined by claims 10 and 17, and all claims depending therefrom, are not rendered obvious by the asserted references for at least the reasons stated above.³

³ MPEP § 2142 “...the prior art reference (or references when combined) must teach or suggest all the claim limitations.

CONCLUSION

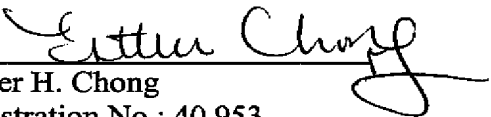
In view of the foregoing, Applicant believes all claims as currently pending are in condition for allowance, and such action is respectfully requested.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Michael Monaco, Reg. No. 52,041, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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